



**Michigan
Statewide Design & Build Bridge Challenge
Transportation and Civil Engineering (TRAC)
Timeline**

November 2008

- ❖ Sign up as a TRAC School!
 - Schools involved in TRAC can enter the Michigan Statewide Design & Build Challenge (Bridge Building Challenge). To become a TRAC School, call your TRAC Region Coordinator today. TRAC Region Coordinator contact information can be found at the Michigan Department of Transportation (MDOT) website: (www.michigan.gov/mdot-trac).
- ❖ Talk to Students, Teachers, and Engineering Mentors about the Bridge Building Challenge.
 - Groups of three students with a maximum of 15 teams per school.
 - Three age groups and three bridge types:
 - 7th & 8th Grade - Drawbridge
 - 9th & 10th Grade - Floating Bridge
 - 11th & 12th Grade – 8' Walking Bridge

Role of Students

- Creators of the bridge
- All team members provide input
- Agree on compromise when there is a disagreement
- Work with an Engineering Mentor
- Have fun!

Role of Teachers

- Facilitator and advisor
- Organize the team within the school
- Maintain contact with the Engineering Mentor
- Keep students on task

Role of Engineering Mentor

- Experienced person paired with student team
- Provide input and technical advice
- Help with project planning
- Facilitate the establishment of deadlines and goals
- Help with understanding the rules
- Let the Students do the Work

- ❖ **Download PowerDraft** – This is the CAD software that must be used for your Bridge Building Plan. NOW is a great time to download the software and play with the program.

<http://www.bentley.com/en-US/Community/Academic/PowerDraft+Download.htm>

To take advantage of the powerful new MicroStation PowerDraft V8 XM Edition, **Follow Directions Below Carefully and Install in the Order Listed:**

- Download the MicroStation PowerDraft V8 XM Edition guides:
 - [Student Guide - English version](#)
 - [Instructor Guide - English version](#)
- Select, download and install Microsoft technology, the XM Prerequisite package, **before downloading MicroStation PowerDraft V8 XM Edition:**

Microsoft technology, the XM Prerequisite package:

- [English version](#)
-
- Select, download and install MicroStation PowerDraft V8 XM Edition **LAST:**

MicroStation PowerDraft V8 XM Edition:

[Download MicroStation PowerDraft V8 XM Edition](#)

Available in English, French, German, Italian, and Japanese

Note: Please download and install both files (**the Microsoft Prerequisites must be installed FIRST for MicroStation PowerDraft V8 XM Edition to operate correctly**), even if you previously downloaded the Microsoft technology, the XM Prerequisite package, as it contains updated drivers required for the latest version of MicroStation PowerDraft V8 XM Edition. MicroStation PowerDraft V8 XM Edition may be run on Windows XP, Windows 2000, Windows Server 2003, and Windows Vista.

- If you are not a CAD user and require help with this software, ask the CAD Teacher in your school or Drafting Instructor within your school district. Please feel free to contact your region TRAC coordinator for help in finding a local resource.

November 21, 2008

- ❖ Register for the National Contest by November 21, 2008. National Contest registration forms can be found at the www.trac.net website under the 2009 Design Build Competition link. The registration form is attached to the rules for each age group. Send registration forms to the address below. Your Bridge Building Kit will be automatically mailed to you.

AASHTO/ TRAC Program

444 North Capitol Street, N.W., Suite 249

Washington, D.C. 20001

Fax: (202) 624-7788

Email: ttadesse@aeshto.org and hannahw@aeshto.org

December 5, 2008

- ❖ Register for the Michigan Bridge Building Challenge. Registration forms can be found on the MDOT website: www.michigan.gov/mdot-trac. Send registration forms to the MDOT-TRAC Director:

Jan Pohl - MDOT-TRAC Director
Michigan Department of Transportation
P.O. Box 30050
Lansing, MI 48933

Phone: (517) 373-9571
Fax: (517) 373-8841
Email: pohlj@michigan.gov

December 5, 2008

- ❖ Bridge building kit will be sent from AASHTO to participating school/team. The information and materials received will be based on the applicant's age group.

December 2008 – February 2009

- ❖ There are 3 parts to the Bridge Building Challenge:
 - **Work on Design of Bridge Following Guidelines in Bridge Building Kit**
 - Study the Rules
 - Plan the Timing of the Project
 - Research
 - **Work on the Construction of the Bridge**
 - Safety and performance
 - Creativity of structural design
 - Quality of construction (use of materials)
 - Ease of operation/construction
 - Snugness of fit at the draw supports
 - Expansion and contraction
 - Drainage
 - Originality
 - Finish enhancements/aesthetics
 - **Work on Oral PowerPoint Presentation.**
 - This is a 10 minute explanation of the design and construction of the project. Point penalties will be applied for presentations exceeding 10 minutes.

Helpful Points to Consider!

- **Keep a daily journal of your activities** – Include Progress reports of day-to-day work on the project and individual team member performance and comments. Also include references such as adults/teachers who helped. This information can be used as part of your proposal.
- **Take lots of Pictures throughout the entire process** - This will be handy with your PowerPoint Presentation.
- **Ask lots of questions!**
- **Read all material carefully!**

March 11, 2009

- ❖ Proposals are due to AASHTO/Washington and MDOT-TRAC Director in Lansing. Do not send the bridge itself. For general proposal guidelines, visit the MDOT website at: www.michigan.gov/mdot-trac. Reminder for the Michigan Design & Build Bridge Challenge, the bridge must be built by April 14, 2009.

March 2009

- ❖ National finalists notified.

April 14, 2009

- ❖ Bridge must be completed and built for team to participate in Lansing. E-mail or send a picture of your completed bridge to the MDOT-TRAC Director.

April 15, 2009

- ❖ Michigan Design & Build Bridge Challenge will be held in Lansing, Michigan.

May 16, 2009

- ❖ National Contest held in Bedford, Pennsylvania at the AASHTO Spring Meeting.